Summary of Changes
Env-A 600
Statewide Permit System

2012 Rule Update

Presentation October 10, 2012

Overview of Presentation

- Overview Env-A 600
- Amendment process
- Changes
  - Numerous Changes
  - Throughout rule
  - Presented in general order of rule
- Air Dispersion Modeling Impact Analysis
  - Major changes
  - Examples

Reason for update

- Existing rule expiring
  - Must readopt – full rulemaking process
  - Opportunity to amend
- Federal requirement $PM_{2.5}$ PSD requirements
- NH adopting current National Ambient Air Quality Standards (Env-A 300)
  - New NAAQS levels and forms
  - Update air dispersion modeling impact analysis requirements

Rulemaking/Public Input Update Process

- Fall 2011-early 2012: Internal review & drafting
- Feb 13, 2012: Present draft to Air Resources Council
- Feb 14, 2012: Pre-notice draft publicly available
- Mar 8, 2012: Public informational meeting for stakeholders
- Mar 30, 2012: Initial Proposal
- May 2, 2012: Public Hearing re: Initial Proposal
  - Comments from regulated entities, industry groups, environmental groups, USEPA Region 1
- June 20, 2012 Draft Final Proposal
- July 13, 2012 DES Response to Initial Proposal comments
- July 20, 2012 Public Hearing re: Draft Final Proposal
  - Comments from industry group, USEPA Region 1
- August 1, 2012 Final Proposal and DES response to comments
- August 16, 2012 JCLAR Conditional Approval
- September 1, 2012 Effective Date

CFR References
Env-A 602

- Code of Federal Regulations (CFR) references throughout Env-A 600
  - All updated to July 1, 2012 version
  - Unless otherwise specified

General State Permit
v.s.
Temporary Permit/State Permit to Operate
Env-A 603

- Sources that obtain General State Permit
  - Not required to obtain Temporary Permit or State Permit to Operate
  - May construct/install new source or device upon issuance of GSP approval letter

Right, Title or Interest
Env-A 605.02

- Source required to certify right, title or interest in property
- Old:
  - Sources required to certify *by affidavit*
- New:
  - Sources required to certify
  - Removed affidavit requirement
    - No longer need to be notarized
    - Only need statement signed by responsible official
- Notes:
  - Do not need corporate seal
  - Required for <u>each</u> application
  - Prepare us for online permitting

Responsible Officials

Env-A 605.04

- Clarified Responsible Official appointment requirement and process
- Must appoint at least one Responsible Official
- Appoint by signing ARD-1
- Can appoint multiple
  - One ARD-1 signed by each
  - Submitals (e.g., applications reports) need only be signed by one

Responsible Officials - Example

Env-A 605.04
(continued)

- Source wants to appoint Tom, Dick, and Harry as Responsible Officials
  - Submit one ARD-1 signed by Tom, Dick and Harry
  - Any future submittals need only be signed by one
- Source wants to replace Harry with Jane
  - Submit one ARD-1 signed by Tom, Dick and Jane
  - Harry is no longer responsible official

Temporary Permit Thresholds

Env-A 607.01

- Two thresholds based on actual annual emissions
  - Actual VOC emissions > 10 tons
  - Pneumatic wood waste transfer > 20 tons
  - Old: 12-month rolling
  - New: Calendar year
- Permit required for VOC RACT only if subject to RACT Order
  - Note general 10 ton threshold above includes VOC RACT sources

Temporary Permit to State Permit to Operate or Title V Operating Permit

Env-A 607.10, 608.02, 609.07

- Application to:
  - Reissue Temporary Permit (TP);
  - Obtain initial State Permit to Operate (SPO);
  - Incorporate TP into existing SPO; or
  - Incorporate TP into existing Title V Operating Permit
  - Due 90 days prior to expiration of TP
  - Eligible for application shield in all circumstances

Title V Application Requirements

Env-A 609.04, 609.06

- Insignificant activities & GHG
  - Added GHG threshold for insignificant activities
  - Device, source or activity is insignificant if:
    - Below Env-A 607.01 thresholds;
    - Emits <1,000 lb/yr all regulated air pollutants
      - other than GHGs; and
    - Emits < 200 tpy of CO_2e
- Compliance Assurance Monitoring (CAM) Plan
  - If required by 40 CFR 64

General State Permit Categories

Env-A 610.04

- Added 6 VOC RACT categories for future GSPs
  - Paper, Fabric Film coating <25 tpy
  - Miscellaneous Metal and Plastic Parts < 25 tpy
  - Rotogravure and flexographic printing <50 tpy
  - Flexible-packaging printing <25 tpy
  - Offset lithographic or letterpress printing < 25 tpy
  - Miscellaneous Industrial Adhesives < 50 tpy
- Notes:
  - Thresholds based on Theoretical Potential To Emit
  - GSPs do not yet exist. This was 1st step.

Minor Permit Amendments

Env-A 612.03

- Minor Amendment
  - May use to incorporate provisions of following into existing State Permit to Operate
    - TP
      - Previously full application process
    - RACT Order
      - No previous process
    - GSP
      - No previous process
- Note: can only incorporate if does not trigger Significant Permit Amendment
  - E.g. May need to amend TP prior to incorporation

Significant Permit Amendments

Env-A 612.04

- Significant Amendment required for:
  - Any increase in
    - Allowable hourly or annual emissions of
      - NO_x, SO_2, VOCs, HAP, or PM_{10}
    - Potential hourly emissions of
      - ≥ 5 lb/hr CO
  - Allowable emissions =
    - Enforceable limitation (e.g., permit limit)
    - If no specific limit:
      - emissions at capacity of source or device

Significant Permit Amendments

Env-A 612.04
(continued)

- Significant Amendment required for certain changes to Pollution Control Equipment (PCE):
  - Change in type of PCE specified in existing permit
    - E.g. Change from baghouse to precipitator
  - Increase in allowed loading to existing PCE >50%
    - E.g. Duct 2 additional spray booths to thermal oxidizer controlling 1 existing spray booth

Minor Permit Modifications

Env-A 612.05

- Clarified
  - TP can be incorporated into Title V Operating Permit via Minor Modification
- Added completeness determination criteria
  - Deemed complete after 60 days unless department requests additional information

Department Proposal to Amend Permit

Env-A 612.07

- New Section
- Allow Department to propose amendments to existing non-Title V permits
- Situations
  - New applicable requirement
  - Permit contains mistake
  - Original application not representative
  - Permit needs to be revised to ensure compliance with any applicable regulation
  - Example:
    - Control device pressure drop
      - Original Application/Permit = 4-6 inches water pressure drop
      - Actual good operation = 3-5 inches pressure drop

Department Proposal to Amend Permit

Env-A 612.07
(continued)

- Process
  - Department notifies owner/operator in writing
    - Identify permit
    - Describe proposed change
    - Identify Staff contact
  - Owner or Operator has 30 days to:
    - Consent to amendment
    - File objection
    - Request a meeting

Department Proposal to Amend Permit

Env-A 612.07
(continued)

- Process (continued)
  - If owner consents (or does not respond within 30 days)
    - Department proceeds with amendment
    - Follow procedures for amendment type commensurate with change
    - If owner objects:
      - Department does not proceed with amendment
      - Notifies owner/operator of potential violations
      - Department may initiate adjudicative proceedings if deemed necessary

New Source Review

Env-A 618 & 619

- Updated both
  - Nonattainment New Source Review (NA-NSR)
  - Prevention of Significant Deterioration (PSD)
- Modeled NH's plan on current Federal plan requirements
  - Minor deviation with baseline actual emissions
- Key change from former NH plan
  - All source types allowed to use actual-to-future actual applicability analysis
- Note: Need to obtain USEPA SIP Approval

Nonattainment New Source Review

Env-A 618

Attainment status

- Old: Implemented NA-NSR as if 4 southern counties in serious non-attainment for ozone
- New: based on designation in 40 CFR 81.330
  - Moderate nonattainment for ozone in some southern towns
  - Still in Ozone Transport Region
  - Implement as moderate ozone non-attainment statewide
- No change:
  - Statewide attainment for PM, NO_2, SO_2, Pb

Nonattainment New Source Review

Env-A 618
(continued)

- NA-NSR Major source thresholds
  - Old NOx = 50 tpy (4 southern counties), 100 tpy all other areas
  - New NOx = 100 tpy all areas
  - Old/New VOC = 50 tpy all areas (no change)
- NA-NSR Significant Emissions Increase thresholds
  - Old NOx = 25 tpy 4 southern counties, 40 tpy all other areas
  - New NOx = 40 tpy all areas
  - Old VOC = 25 tpy 4 southern counties, 40 tpy all other areas
  - New VOC = 40 tpy all areas

Limitations on Potential to Emit

Env-A 625

- New section
- Target = VOC & HAP sources
  - PTE > major source thresholds
  - Actual emissions < ½ major source thresholds
- Old
  - Permit required to establish synthetic minor source status
- New
  - No permit required IF:
    - Notify Department of intent to limit PTE and establish minor source status via Env-A 625

Limitations on Potential to Emit

Env-A 625
(continued)

- Eligibility:
  - Source categories with usage/throughput <= thresholds
  - Miscellaneous/mulitcategory sources actual emissions < ½ major source thresholds
    - 25 tpy VOCs, 5 tpy individual HAP, 12.5 tpy all HAPs
- Process
  - Notify DES in writing
  - Maintain records

Limitations on Potential to Emit

Env-A 625
(continued)

- Limitations/caveats
  - Sole purpose:
    - Establish synthetic minor source status relative to VOCs and HAPs via notification v.s. Temporary Permit
    - i.e., use Env-A 625 instead of Env-A 607.01(n)
  - Does not exempt source from any applicable requirements (RACT, Env-A 1400, etc.)
  - Permit may still be required if source meets other permitting thresholds
  - Not retroactive
  - Records must be robust enough to determine compliance

Air Dispersion Modeling Impact Analysis

Env-A 606

- Clarify modeling procedures & standards
- Standards
  - Adopted current NAAQS (Env-A 300)
  - E.g. 1-hr NO_x, 1-hr SO_2
- Modeling thresholds
  - Old: Any device for which permit required
  - New: Modeling-specific thresholds
    - Facility-wide emission thresholds
    - Performance-based thresholds
- Note: No changes to Env-A 1400 modeling

Modeling Applicability Determination

- Modeling Thresholds
  - Two primary steps
- What devices required to be modeled?
- What pollutants required to be modeled?

Modeling
Devices to be Included

Env-A 606.02

- Facility-wide allowable emissions thresholds
  - Based on PSD significance thresholds
  - If greater than any threshold
    - Include all permitted devices
  - If less than all thresholds
    - Do not include devices w/vertical, unobstructed stacks
- Env-A 607.01(permit) thresholds
  - Include all devices that meet permit threshold
  - Does not meet permit threshold - not included in modeling
  - No change from old modeling applicability

Modeling
Pollutants to be Modeled

Env-A 606.06

- Once modeling triggered, must model for:
  - NO_x, SO_2, CO, PM_{10}
- Performance-based exceptions:
  - NO_x from devices meeting NO_x RACT standards
  - SO_2 from devices w/emission rate 0.025 lb/MMBtu or less
    - Based on 0.05% sulfur fuel oil or natural gas
  - PM_{10} from devices meeting:
    - 0.10 lb/MMBtu; or
    - 95% PM capture/control

Modeling
PSD Specific Requirements

Env-A 606.06(c) and (d)

- Major PSD sources
  - Not eligible to exclude devices based on performance thresholds
    - E.g., must model SO_2 from device even if emission rate < 0.025 lb/MMBtu
- Major PSD Projects
  - Must also model for $PM_{2.5}$

Modeling Methods On/Off Property Impacts

Env-A 606.05

- All modeling performed using 40 CFR 51 Appendix W Methods
  - Required analysis of impacts anywhere accessible by public
    - Including on-property
    - No change from existing methods
  - New state exception
    - Do not need to evaluate on-property impacts at rock crushing or hot mix asphalt plants

EXAMPLE 1 Base Case										
Device Description			**Achieve Performance Level for:**				**Is Modeling Required?**			
Device	**Meet Env-A 607.01 threshold?**	**Stack Orientation**	**NO_x**	**SO_2**	**PM_{10}**	**CO**	**NO_x**	**SO_2**	**PM_{10}**	**CO**
Boiler #1 25 MMB tu/hr	YES	Vertical/ Unobstructed	☒	☒	☒	n/a	NO	NO	NO	NO
Boiler #2 25 MMB tu/hr	YES	Vertical/ Unobstructed	☒	☒	☒	n/a	NO	NO	NO	NO
Boiler #3 2 MMB tu/hr	NO	Vertical/ Unobstructed	☒	☒	☒	n/a	NO	NO	NO	NO
		Facility-wide:	<40 tpy	<40 tpy	<15 tpy	<100 tpy				

Other Examples

Modeling
Modifications Triggering Re-analysis
Env-A 606.02

- Modeling required if modification results in increase in allowable emissions:
  - Annual or hourly NO_x, SO_2, or PM_{10}
    - Any increase
  - Hourly CO
    - equal/greater than 5 lb/hr

Modeling
Modifications Triggering Re-analysis

Env-A 606.02
(continued)

Modeling required if modification results in:

- Reduction in stack height
- Increase in effective stack diameter
- Obstruction of the exit of the stack
- Change in stack orientation
- Reduction in temperature
  - Lesser of 10% or 40 deg F
- Reduction in flow
  - Lesser of 10 % or 1,000 acfm
- Change in stack location

Modeling Documentation

Env-A 606.04

- Any applicant that submits its own modeling must provide:
  - Modeling protocol
  - Summary report of results
  - All data files necessary to verify results
- Must be included as part of application
  - Sources encouraged to submit protocol prior to performing modeling

Modeling & Permit Limits

- Existing modeling-based permit limitations remain unless/until:
  - Source remodels and demonstrates compliance with current standards w/o limit; or
  - Device modified to reduce emissions or removed
    - Ex – fuel sulfur limit on device
    - Ex – fuel cap on multiple devices
    - Ex – simultaneity restriction on multiple devices

Recent Streamlining Efforts & Future Plans

- Recent Amendments
  - Permitting effort commensurate with size of source
    - Modeling for higher-emitting sources
    - Streamline permitting
  - Alternative permitting
    - General State Permits
      - GSP for emergency generators - *online*
      - Additional source categories
    - Permit-by-notification
      - Permit-by-notification for rock crushers - *online*
    - Synthetic minor source registration (Env-A 625)
- Future
  - Expand GSP, PBN, registration programs
  - Expand online application/registration capability

For more information

- Rules (Env-A 600 & Env-A 300):
  - http://des.nh.gov/organization/commissioner/legal/rules/index.htm
- State Implementation Plan information:
  - http://des.nh.gov/organization/divisions/air/do/sip/index.htm
- Contact:

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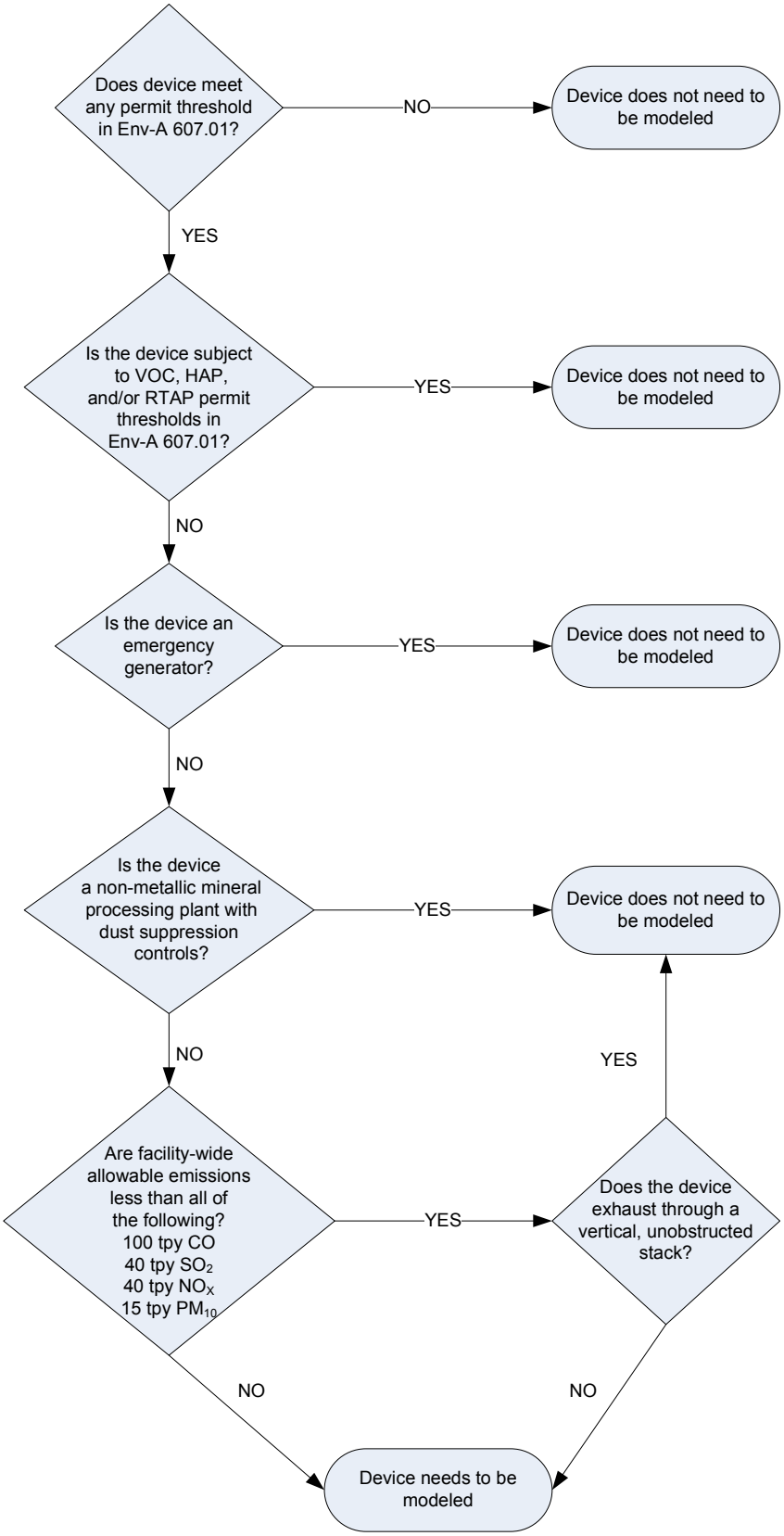
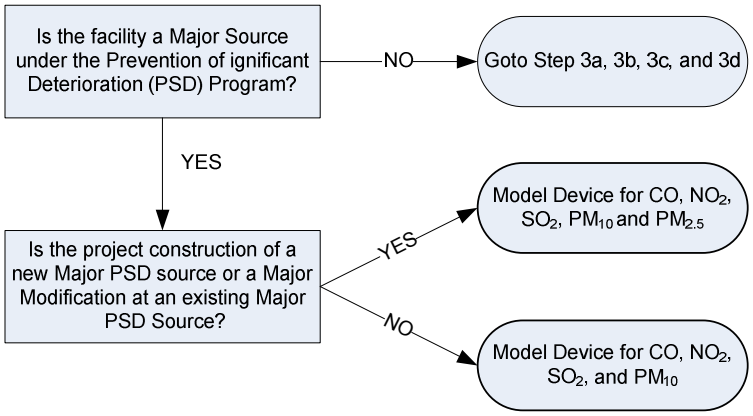
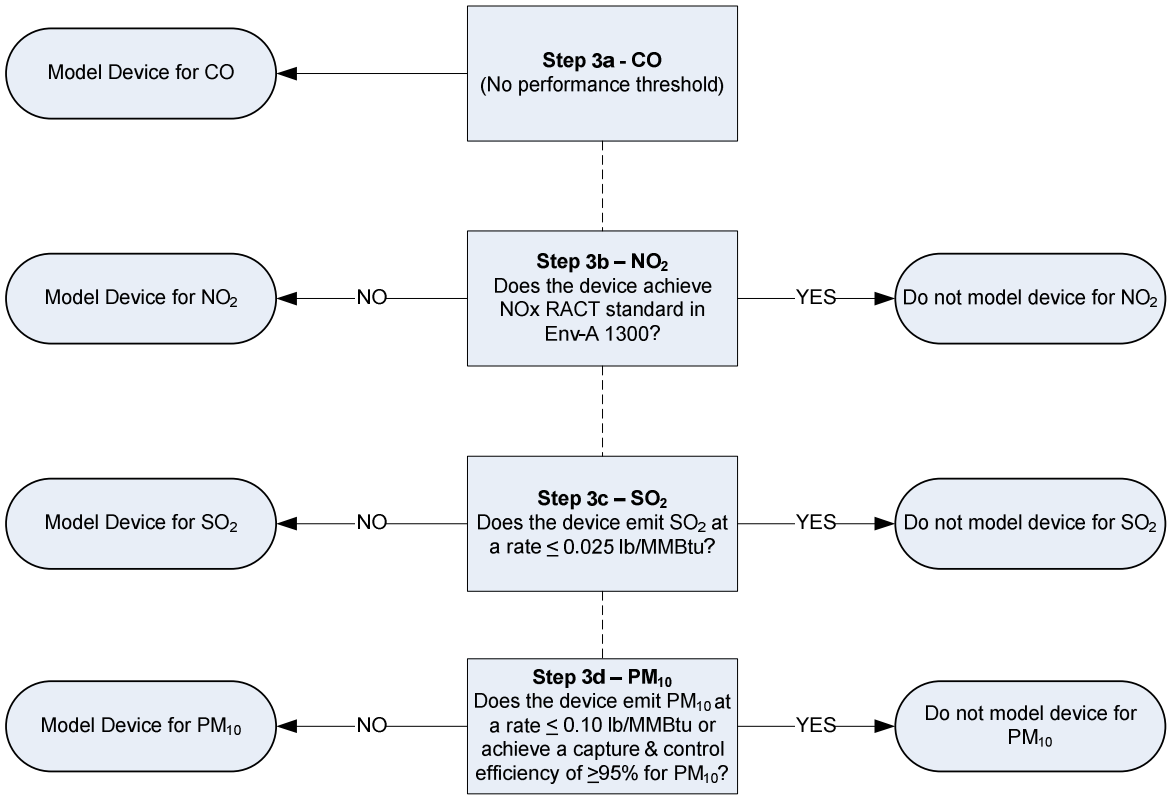
Env-A 606 Modeling Applicability Flowchart
Part 1: Does the device need to be modeled for criteria pollutants?



Env-A 606 Modeling Applicability Flowchart
Part 2: For which pollutants must the device be modeled?





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Air Dispersion Modeling Impact Analysis
Applicability Determination Examples

EXAMPLE 1 Base Case										
Device Description			Achieve Performance Level for:				Is Modeling Required?			
Device	Meet Env-A 607.01 threshold?	Stack Orientation	NO_x	SO_2	PM_{10}	CO	NO_x	SO_2	PM_{10}	CO
Boiler #1 25 MMBtu/hr	YES	Vertical/ Unobstructed	☒	☒	☒	n/a	NO	NO	NO	NO
Boiler #2 25 MMBtu/hr	YES	Vertical/ Unobstructed	☒	☒	☒	n/a	NO	NO	NO	NO
Boiler #3 2 MMBtu/hr	NO	Vertical/ Unobstructed	☒	☒	☒	n/a	NO	NO	NO	NO
		Facility-wide:	<40 tpy	<40 tpy	<15 tpy	<100 tpy				

Air Dispersion Modeling Impact Analysis
Applicability Determination Examples

EXAMPLE 1
Base Case

Device Description			Achieve Performance Level for:				Is Modeling Required?			
Device	Meet Env-A 607.01 threshold?	Stack Orientation	NO_x	SO_2	PM_{10}	CO	NO_x	SO_2	PM_{10}	CO
Boiler #1 25 MMBtu/hr	YES	Vertical/ Unobstructed	☒	☒	☒	n/a	NO	NO	NO	NO
Boiler #2 25 MMBtu/hr	YES	Vertical/ Unobstructed	☒	☒	☒	n/a	NO	NO	NO	NO
Boiler #3 2 MMBtu/hr	NO	Vertical/ Unobstructed	☒	☒	☒	n/a	NO	NO	NO	NO
		Facility-wide:	<40 tpy	<40 tpy	<15 tpy	<100 tpy				

EXAMPLE 2
Capped Stacks

Device Description			Achieve Performance Level for:				Is Modeling Required?			
Device	Meet Env-A 607.01	Stack Orientation	NO_x	SO_2	PM_{10}	CO	NO_x	SO_2	PM_{10}	CO
Boiler #1 25 MMBtu/hr	YES	Capped	☒	☒	☒	n/a	YES	YES	YES	YES
Boiler #2 25 MMBtu/hr	YES	Vertical/ Unobstructed	☒	☒	☒	n/a	NO	NO	NO	NO
Boiler #3 2 MMBtu/hr	NO	Capped	☒	☒	☒	n/a	NO	NO	NO	NO
			tpy	tpy	tpy	tpy				
		Facility-wide:	<40 tpy	<40 tpy	<15 tpy	<100 tpy				

Air Dispersion Modeling Impact Analysis
Applicability Determination Examples

EXAMPLE 1
Base Case

Device Description			Achieve Performance Level for:				Is Modeling Required?			
Device	Meet Env-A 607.01 threshold?	Stack Orientation	NO_x	SO_2	PM_{10}	CO	NO_x	SO_2	PM_{10}	CO
Boiler #1 25 MMBtu/hr	YES	Vertical/ Unobstructed	☒	☒	☒	n/a	NO	NO	NO	NO
Boiler #2 25 MMBtu/hr	YES	Vertical/ Unobstructed	☒	☒	☒	n/a	NO	NO	NO	NO
Boiler #3 2 MMBtu/hr	NO	Vertical/ Unobstructed	☒	☒	☒	n/a	NO	NO	NO	NO
		Facility-wide:	<40 tpy	<40 tpy	<15 tpy	<100 tpy				

EXAMPLE 3
Facilty-Wide Emissions > Env-A 606.02(c)(5) Threshold

Device Description			Achieve Performance Level for:				Is Modeling Required?			
Device	Meet Env-A 607.01	Stack Orientation	NO_x	SO_2	PM_{10}	CO	NO_x	SO_2	PM_{10}	CO
Boiler #1 25 MMBtu/hr	YES	Vertical/ Unobstructed	☒	☒	☒	n/a	YES	YES	YES	YES
Boiler #2 25 MMBtu/hr	YES	Vertical/ Unobstructed	☒	☒	☒	n/a	YES	YES	YES	YES
Boiler #3 2 MMBtu/hr	NO	Vertical/ Unobstructed	☒	☒	☒	n/a	NO	NO	NO	NO
			tpy	tpy	tpy	tpy				
		Facility-wide:	**50 tpy**	<40 tpy	<15 tpy	<100 tpy				

Air Dispersion Modeling Impact Analysis
Applicability Determination Examples

EXAMPLE 1
Base Case

Device Description			Achieve Performance Level for:				Is Modeling Required?			
Device	Meet Env-A 607.01 threshold?	Stack Orientation	NO_x	SO_2	PM_{10}	CO	NO_x	SO_2	PM_{10}	CO
Boiler #1 25 MMBtu/hr	YES	Vertical/ Unobstructed	☒	☒	☒	n/a	NO	NO	NO	NO
Boiler #2 25 MMBtu/hr	YES	Vertical/ Unobstructed	☒	☒	☒	n/a	NO	NO	NO	NO
Boiler #3 2 MMBtu/hr	NO	Vertical/ Unobstructed	☒	☒	☒	n/a	NO	NO	NO	NO
		Facility-wide:	<40 tpy	<40 tpy	<15 tpy	<100 tpy				

EXAMPLE 4
Devices meet an Env-A 606.06(c) performance thresholds

Device Description			Achieve Performance Level for:				Is Modeling Required?			
Device	Meet Env-A 607.01	Stack Orientation	NO_x	SO_2	PM_{10}	CO	NO_x	SO_2	PM_{10}	CO
Boiler #1 25 MMBtu/hr	YES	Vertical/ Unobstructed	☑	☒	☒	n/a	NO	YES	YES	YES
Boiler #2 25 MMBtu/hr	YES	Vertical/ Unobstructed	☒	☑	☒	n/a	YES	NO	YES	YES
Boiler #3 2 MMBtu/hr	NO	Vertical/ Unobstructed	☒	☒	☒	n/a	NO	NO	NO	NO
			tpy	tpy	tpy	tpy				
		Facility-wide:	**50 tpy**	<40 tpy	<15 tpy	<100 tpy				

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